MASTER OF SCIENCE
IN
COMPUTER SCIENCE

OBJECT RECOGNITION USING 2D SENSORS AND AUTONOMOUS VEHICLE NAVIGATION ISSUES

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This research deals with the problem of extracting features from an image using wavelets and then using these features to recognize objects present in the image. This technique is applied to recognition of Unexploded Ordnance (UXO) objects. However, the concepts described here can be extended to recognition of other objects such as ships, missiles and aircrafts. This work is performed as part of an ongoing effort to develop an autonomous vehicle capable of detecting UXOs.

KEYWORDS: Image Recognition, Unexploded Ordnance, Wavelets, Neural Networks, Motion Control

DoD KEY TECHNOLOGY AREAS: Computing and Software, Electronic Warfare, Modeling and Simulation, Ground Vehicles

THE NPS LOCATOR SYSTEM

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The purpose of this thesis is to design, develop, and implement a personnel locator system at the Naval Postgraduate School (NPS). A prototype locator system was developed and implemented on the NPS TCP/IP network. The locator provides information such as e-mail addresses, phone and fax numbers, and building and office locations as well as facilities such as hotlinks for e-mail applications and homepages. In addition, the NPS Locator automatically updates its personnel information on a configurable time schedule. This thesis includes a discussion of the prototype development to include requirements, tools, and design. Some program code is included as appendices. This paper also discusses the benefits and considerations of intranet technology, and explores a popular Web application architecture on which the NPS Locator is based. Finally, this thesis makes recommendations for improvements to the NPS computing environment to allow for future intranet development

KEYWORDS: Intranet, Directory, TCP/IP Networking, Web Application, HTTP, CCI

DoD TECHNOLOGY AREA: Computing and Software
